

**Miami Harbor Phase II
After Action Review
August 1 and 2, 2006
Miami, Florida**

The meeting was hosted by Dr. John Proni, NOAA-AOML and was facilitated by Ms. Marie Burns, Chief – SAJ Environmental Branch. An attendee list is also included in the meeting notes.

The meeting began with an Introduction period. Ms. Burns had each attendee state their name, agency or organization, a goal for the meeting and a definition of what they would consider success for the meeting. Meeting participants also set up the “Rules of Engagement” for the meeting.

I. Goals of the attendees –

1. How other agencies viewed success
2. Understand issues-equipment
3. Input for future Harbor Improvement projects.
4. Recognize impacts avoidance/minimization & monitoring
5. What worked/what didn't work
6. What happened-educate-valve
7. Understanding problem solve
8. Principle environmental Concerns→measurements
9. Heard & address concerns
10. Discussion material disposal
11. Understand point concerns
12. Impacts T & E
13. Understand impacts Phase II and Phase III
14. Lessons Learned → take to future project
15. Learn about Phase II
16. Determine the impacts on the Bay
17. Learn- acoustics
18. Work together for resolution.
19. Improve grey areas
20. Fisheries habitat
21. Discuss problems-Phase II and Phase III
22. Capabilities of the dredging industry

II. Success

1. Improve coordination- T & E protections
2. Still talking to each other
3. Learned about how to assist
4. Apply lessons learned to Phase III
 - Learn what public wants
5. Gain full appreciation of attendee concerns
 - Transparency in process
6. Comm. Less environmental Impacts
7. Heard and Criteria
8. Path to resolve conflicts
9. Answer questions on impacts
10. Celebrate good job

11. Don't evaluate project in vacuum
12. Implement Lessons Learned to Phase III
13. Put us on a path to solve problems faced in Phase II before reaching Phase III
14. Meld contractor's capabilities & concerns
15. Information dissemination
16. Learning
17. Limit meeting to the issues
18. Use info for permit process
19. Coordination Process
20. Free flow of information

III. Rules of Engagement

1. Focus on issues in Phase II- Stay in present
2. Remember its not personal
3. Focus on best available information
4. No Hard objects or fruits
5. No harassment
6. Stay on time
7. One speaker at a time
8. Direct comments to group not to one person

Evaluation of Each Dredging Method.

Each segment of the project was evaluated for 1) What was supposed to happen, 2) What happened, 3) What worked, 4) What did not work and 5) Lessons Learned.

Blasting

What was supposed to happen/What happened? (combined)

- Used fish scares (5 minutes and 1 minute before the blast)
- Planned for 100 days- 2 shots/day= 200 shots
- Actual - 38 days- 40 shots
- 119 pounds per delay project average - "small shots"
- 17-376 pounds per delay (range of project shots)
- Protected species sightings - 110 manatees (4 delays), 58 dolphins (4 delays), 16 turtles (5 delays)
- Fish monitoring - 25 shots monitored with data collected, and reported
- 95% days had sightings for protected species
- Minor fish kills – a few recreationally fished species noted (gag grouper) [Per FWC staff - FWC has a definition for gamefish and for Miami – no gamefish were killed]
- Bottlenose dolphin jumped/ IHA issued by NMFS for harassment of bottlenose dolphins
- 1 hole blew out in array on one day.
- A subset of the dead fish were lost to bird scavenging and some did not float to the surface to be recovered.

+ - What Worked	- - What didn't work
Monitoring	Contractor Required to blast

NGOs/agencies out on vessels to observe	Access to FTP site for non-governmental organizations
Education - meetings on blasting results	Undetonated detaline – ATF issue
Model process for other blasting projects	Acoustic monitoring from observer vessel w/hydrophone - No GPS of vessel location for each blast = incomplete data. Hydrophone on drill barge too close to the blast array and over loaded. Recordings from drillboat hydrophone not useable.
Wider “safety” zone by contractor	Some fish sank to bottom or were eaten by birds and were not recorded in the monitoring
Great Lakes collecting debris	Although no gamefish (as defined by FWC) recorded, public Rumors on dead snook
Observers- in air, etc	Public process on phase III-no separation from phase II
Working with group	Safety-danger zone-30 minute visibility through the water column –should the timeline be extend? Talk to observing companies that work in low visibility water areas where protected species are an issue (Wilmington, New York) for examples and guidance. Is there a longer timeframe used in project areas with naturally low visibility?
Strong efforts made to recover blast debris after each blast (pull back to barge & 2/3 vessels with recovery gear deployed to recover material).	Out of safety zone-T-5 not long enough (talk to observing companies and NOAA fisheries PR1 about this).
	Turbidity Monitoring issues with concurrent blasting and dredging
	One Dolphin breached immediately after a blast - is zone configuration sufficiently protective?
	Nomenclature of zones (lack of consistency across permitting agencies, Corps and contractors).
	Needed more Inter-agency input for monitoring program design
	Debris- sinking and floating (both detaline and stemming bags have potential to look like prey items – jellyfish and manatee grass).

Lessons Learned:

1. Continued Education of public and agencies on blasting results. Might distribute press releases before and after blast portion of project completed (not each individual blast).
2. Folks on vessel during blasting increases comfort and knowledge of process
3. Have a “Media blasting day” -An example would be [George Poveromo's World Of Saltwater Fishing](http://www.georgepoveromo.com/) <http://www.georgepoveromo.com/>. There are NUMEROUS fishing shows and magazines that cover this area.

4. Use 1 term for outside zone – **consistency across all agency documents (IHA, Biological opinion) and reports (NOAA - Fisheries, Corps, FWC, DEP, Contractor).**
5. In water after blasting to observe- visibility was fine; **safety protocols** or camera in the water. When is it okay to put a diver in the water after the blast? Would have to be resource agency divers (not under any contract to Corps) – safety protocols forbid USACE or contractors divers
6. Training on COE processes-highlight where designing surveys- 1 rep for each agency.
7. Written comments from agencies
8. **Debris:** Comments in FWC letter (P&S)
 - Better sense of what debris is present- scope
 - Work with industry to determine if possible to inventory materials before and after each blast
9. Access to FTP site
10. Need for an env. Manager-continue- publicize to agencies, NGOs and public who it is. (For projects of this magnitude – place a requirement in COE plans and specs for an environmental manager).
11. Exclusion zone calculations may need to be customized to reflect specific site conditions, such as bathymetry or proximity to shoreline, to ensure adequate species protection. Need a literature review to see if alternative safety radii formulae allowing for site conditions have been vetted in the scientific community. If not, use best available scientific information with required harassment authorizations (NOAA/FWS for MMPA). NMFS-PR1 – safety zone/danger zone as applied to Miami sufficient for compliance with MMPA.
12. The limited impact of blasting to fisheries may have been seasonal.

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- Are fish scares effective?
 - Are Unmanned video surveys during/after the blast possible?
 - Monitoring for phase III- resources
 - Caged fish study
 - Issues with 902 limits
 - Minimum safety zone?
 - Since concussion impact extends farther in deep channel, should the shape of the safety zone be site specific? (asymmetrical rather than round?) . Is this feasible to implement on a day to day/blast to blast basis where weights constantly change. Need consistency for the specifications. Look at blasting literature for other vetted examples.
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Cutterhead-

What was supposed to happen?

1. 7 months for cutterhead
2. Cutterhead- dredge project footprint to -42 feet
3. Expectation- all rock
4. Material loaded in scows and placed in ODMDS
5. ODMDS monitored by NOAA
6. Methods in place to control turbidity
 - a. Overflow through elephant trunk- one method
7. Set up dredging plan for continuous port operations
8. No anchorage outside channel

9. Seagrass survey & videos diver baseline within 100 meters of the channel before dredging; video every two weeks and one diver survey during construction and diver survey after construction.
10. Included Berthing areas

What happened?

1. Started July, finished Nov. (4 ½ months)
2. Reduced dredging footprint due to turbidity issues in SW corner of turning basin – The SW corner of the turning basin had much higher content of clay fines than anticipated. This resulted in higher levels of turbidity and exceedances that stopped dredging operations until levels returned below permitted levels of 29 NTUs above background (per DEP permit).
 - a. Pocket of clay or fines
3. All material placed in ODMDS
4. Barge flipped
5. Outside impacts besides project- other boats
6. Changed protocol to deal with scows
7. Problem with seals on scows- leaky scows
8. Photographed scows leaving to monitor for leaks
9. High Station (condo) at entrance channel
10. Photos of an unexpected turbidity plume from a leaking scow sent to DEP by DERM on 7/22/2006. Turbidity exceedances also reported by contractor on 7/22/06.
11. Reported impacts to corals – not confirmed by DERM visual inspection
12. Pull scow that leaked out of rotation - used 3 scows at end
13. Turbidity - the background levels developed under the DEP permit were not indicative of natural conditions because the plumes hadn't fully dissipated complexity of the currents, plumes from other sources (ships), etc.
 - No preconstruction background information specific to project area and project conditions (mid water, bottom, surface) (How does DEP normally require development of background information for a project?).
 - Frequency and locations of permitted turbidity monitoring were not adequate to catch possible exceedances
14. Sedimentation-no preconstruction background
Information: visual inspections
15. Misunderstanding on threshold to stop work
16. After-dredge slopes?? Vertical cuts through soft sediments will not remain vertical. The material will slough into the channel to reach an equilibrium slope. Therefore the impact will extend outward from the cut. The extent of this impact needs to be quantified for Phase II and taken into account in Phase III.

+ - What Worked	- - What didn't work
Studies episodic events on coral reefs	Lack of knowledge on where turbidity plumes settle
Use of the dredge <i>Texas</i> - reduced amount of blasting necessary to complete the work.	Limited information on turbidity outside channel (turbidity monitoring done outside of the channel – to the south when the plume moved in that direction).

Reduced project time frame	Absence of baseline data: <ul style="list-style-type: none"> • Turbidity • Sedimentation
Communication with NOAA, COE, & Contracting for ODMDs	Turbidity monitoring-not resource protection
Acoustic Doppler Current profiler-repair fast	Resource monitoring not at closest edge of resource
Condo- observation of filled scows transiting to ODMDs	Background data- not good means to determine
Willingness of contractor to make changes	Turbidity plumes- possible adverse affect to recreation (sight fishing was cited as example). Per FWC - No comments received from public concerning effects to fishing.
Posting info to FTP	Permitted sampling requirements for turbidity appear inadequate to capture accurate background levels
Ability to do w/o impacts outside areas from anchoring	No method to differentiate between project & other turbidity
Navigation in and through port maintained	Sometimes strict interpretation of permit can't rely on permittee to take care of unexpected situations without condition
Innovative ways to address problems by contractor	Monitoring of turbidity with accident (scow) emergency response
Real time system to measure currents at disposal site-resulted in windows-real time	Existing turbidity-exacerbated by project
All data, for all pre/during/post project provided to the local, state, and federal resource agencies.	Limited agency input in benthic survey protocol development.

Lessons Learned:

1. Need to develop Long-term (1 year-min) baseline data on:
 - Turbidity & sedimentation (broad geo. Area) Both channels; south of bridge; bear cut
 - Calibration
 - Use DERM data and new program
 - Consistent with DEP protocols-acceptable to DEP protocols-acceptable to DEP
 - CERP program data: (Recover)
 - Inclusion statistical variance
 - Separate turbidity and sedimentation
 - Baseline surveys of the extent and condition resources (seagrass & coral)
2. Corps and EPA updating site material Mgt plan for ODMDs
3. Weekly sedimentation and resource monitoring (look at Key West as a starting point) during construction
4. Don't ignore hydrology fluctuations-modeling (?)
 - Access the Biscayne Bay hydrodology monitoring already completed for CERP and Miami River and utilize

Scows:

- Use BMP based on Phase II experience
- Higher Standard BMP's
- Look at WQ monitoring

O & M Hopper

What was supposed to happen?

1. Begin Dredging Dec. 2005
2. Option 4- entrance channel
3. Endangered Species observer on hopper
4. Disposal ODMDS
5. Turtle deflectors on hopper dredge
6. 9 days
7. Some turbidity issues
8. Option 1: No overflow
Miami R. material
9. Turbidity monitoring based on WQC requirements
10. Re-looked at original permit conditions-temp. resolution

What happened:

1. Dredging in March 2006
2. Option 4 compl. & main turning basin (option 1)
3. ES observer- No turtle take & no whales/ manatees
4. Used turtle deflector
5. Disposal to ODMDS
6. 2 ½ weeks with option 1

+ - What Worked	- - What didn't work
Self contained	Hopper dredge can only remove soft material
No loss of material on way to ODMDS	A couple adverse public comments to DEP/DERM
Safe offshore tool	

Lessons Learned:

1. Material inside port not overflowed from hopper dredge– reduced turbidity
2. Some turbidity issues (no reported exceedances)– resolve WQC changes formally

Clamshell Dredge and Scows-

What was supposed to happen?

1. Option 1 finished- turning basin
2. Option 5- Berthing Areas
3. 40 days
4. 24 hour day dredging and turbidity monitoring
5. Endangered Species observers (specifically manatee)
6. Environmental Bucket
7. Scow- 1 missed target ODMDS; 2 border on 500 foot disposal target in ODMDS box

What happened?

1. Started May 25 thru July 9
2. Option 1 & 5
3. Two manatees spotted
4. Security issues impacted dredging
5. One hour shut-down - 12 July Turbidity
6. Encountered rock- option 5
7. Dug up FPL line – per the “FPL option”
8. (Not identified until the AAR meeting) Permit condition limited work in aquatic preserve to 30 days, unless permittee requested time extension. Dredging continued beyond 30 days without formal request for time extension.

+ - What Worked	- - What didn't work
Env. Bucket	Reissuance of Variance -SURPRISE! Included the 30-day limit specified in Rule 62-4.242(2)(a)1.b.
Less of turbidity issue	Environmental bucket only for good soft materials
Coordination on rock pinnacle removal	Disagreement over nighttime dredging – re:manatees. Lack of data/science regarding manatees and clamshell dredge impacts. (This was not mentioned at the AAR – it was added afterward)

Lessons Learned:

1. Coordinate early on manatees (nighttime dredging)
2. Sealed bucket-Contractor
3. Variances/conditions may need to be equipment specific

Study & Surveys

Blasting -

1. Caged fish study- Confined blasting on fish
2. Benthic community (fish & invertebrates)-involved in methods and results-Level of detail

Working Group????

Cutterhead

1. Post construction surveys-slopes (cross-sections). Look at... what slope was achieved? **Pending completion of survey work – as soon as complete data will be able to be made available for review**
2. Fisheries characterization- use available data
3. Effectiveness of fish scare- literature?

Additional Comments that are not lessons learned, however should be captured and considered –

- NMFS HCD acknowledges that the effects of blasting may have been less significant than originally anticipated, however we recommend that the COE proceed with caution in extrapolating Phase II blasting and effects to marine resources with Phase III. We note that Phase II blasting was limited to one

season and 40 total shots over 38 days. Whereas Phase III blasting could occur over 1,500 blast days and the seasonal effects to marine fisheries and more frequent/chronic blasting could elevate the level of effect on EFH and the fisheries they support.

- USFWS (T. Adams) – Is there a way to monitor manatee/dolphin behavior on video DURING the blast itself?? Current protocol has helicopter tighten down to the observed radius from the Marine mammal watch zone to monitor the “safety/exclusion zone” for last couple of minutes in case of need to stop shot due to animal presence. This might help relieve some of the concern about animal reactions to the blasts.

Day 2 – Miami GRR – Incorporation of Phase II Lessons Learned

After completion of the AAR for Phase II, Mr. Rene Perez, Project Manager for both Phase II and Phase III, provided an overview of the Planning, Engineering and Design Phase (PED) Process for the group. This is the phase of development that the Miami Phase III project will enter when authorization and appropriations are secured at the Congressional level.

PED:

- Authorizing Document (GRR/FEIS)
- Before contractor starts
- Triggered: Completion authorizing Document - Complete Feas. Report
- Must have Congressional Authorization – WRDA & appropriations (\$)
- Time- up to 2 years
- Need WQC
- Data to go into PED for plans/Spec
- Goal: Plans and Specs
- Award contract using P&S
- Project Coord. Agreement (PCA) with sponsor
- PED agreement
- Hydro surveys; Geotech surveys
- Section 1355 & 2325 of the plans and specifications
Environmental/Dredging sections
- **Obtaining turbidity and baseline data**
→look at the recently completed Key West Work as a starting point.
- Draft routed through PDT (Proj. Del. Team)
(BCOE: Biddability, Contractibility, Operation, env.)
- Independent Technical Review Jax District
- Advertise work to Contractors
- Acquisition Strategy Board: How to contract (type)
- Source Selection Team: Team may include outside agencies (confidentiality agreement/ may take up to one week – in Jacksonville. Must be at District).
- Selections criteria- to grade proposals
- Place-intent to advertise in Commerce Business Daily
- Public Notice
- Advertise: 45 days
 - preproposal meeting
 - changes in P & S → amendment
- 45th Day- collect proposals
- Source selection team reviews
(1day→3 weeks)
- Contracting officer does selection
- Makes award→Notice to proceed

To Do for Miami GRR:

PARTNERSHIP

1. Turbidity- Sed. Study

- Tech working group-use Key West plan as basic outline:
 - DEP
 - DERM
 - NOAA (AOML/PRD/HCD)
 - COE
 - FWC
 - Use meeting criteria
- Vett to rest of group
- Statement of Work
- Execute

Publication of AAR Results

1. Type up Rough Draft
2. Lessons Learned and how to apply
3. Draft to team members
4. Couple weeks review
5. Finalization and Place on Corps Environmental Documents Web Site

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July 31, 2006

Ms. Terri Jordan, Biologist
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Re: Miami Harbor Port Expansion Project
Phase II – After Action Review

Dear Ms. Jordan:

The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated the After Action Review of the Miami Harbor Phase II Project, and provide the following comments and recommendations.

General

Comment and Recommendation: The use of website and FTP sites to post most recent project information is highly successful and should be continued.

Marine Fisheries

Comment: It is difficult to discuss and implement avoidance, minimization, and compensatory mitigation options for marine fisheries resources when there is a lack of information on the potential impacts of confined blasting on such resources.

Recommendation: Conduct a caged fish study to provide some information on the potential impacts of confined blasting on marine fisheries resources, and apply the information learned from this study to avoid and minimize impacts during Phase III of the Miami Harbor Port Expansion project.

Turbidity and Sedimentation

Comment: There was extensive concern regarding the lack of acceptable baseline data to establish appropriate background levels and exceedance standards for turbidity associated with project-related activities.

Recommendation: Collect baseline turbidity data for at least one year prior to the application for the state Water Quality Certification (WQC), and provide the data to the state of Florida upon application for use in establishing appropriate background levels and acceptable exceedances for turbidity. Baseline turbidity data collection should be conducted using methodology acceptable to the Florida Department of Environmental Protection (FDEP). If these data are not collected by the U.S. Army Corps of Engineers (ACOE), it should be acceptable that the state of Florida uses the best available information which is the data set that has been collected by Miami Department of Environmental Resource Management since 1988.

Comment: There was extensive concern that turbidity associated with the project would result in sedimentation, thus impacting habitat and fisheries resources (i.e., corals and seagrasses).

Recommendation: Collect baseline sedimentation data for habitat and fisheries resources which may potentially be affected by the project, for at least one year prior to the application for the state WQC. Baseline sedimentation data collection should be conducted using methodology acceptable to the Florida Department of Environmental Protection (FDEP). Data should be provided to the state of Florida upon application of the WQC for use in establishing appropriate sedimentation levels and acceptable exceedances for sedimentation on habitat and fisheries resources.

Surveying, Monitoring, and Reporting

Comment: There was general lack of approval by multiple resource management agency staff for the methodologies and protocols used by ACOE contractors for surveying natural resources and monitoring project impacts on such resources.

Recommendation: Include all resource management agencies during the design of survey and monitoring programs, and make every attempt possible to achieve consensus among the agencies on the design of such programs, in order to avoid disagreements on the validity and application of the resulting data.

Comment: It was difficult to evaluate project data due to their organization.

Recommendation: To increase the efficiency of evaluating the final report, data sheets could be organized by date in addition to type. For example, all shot report summaries, protected marine species observation forms (daily summaries), etc. for June 20 could be compiled together. Combining these reports by date would facilitate data analysis and allow discrepancies to be noticed more quickly.

Comment: When asking agencies to evaluate and provide comments on “lessons learned,” it is important that all data from the project be complete and available. In a presentation at the Blasting Workshop (St. Petersburg, April 2006), it was mentioned that there were two blasts that were accidentally unconfined (including blast AP36). If this information were available prior to the After Action Review process, the details of these unconfined blasts as they relate to the Watch Program would likely be insightful and would allow us to provide more thorough comments and recommendations.

Recommendation: Wait to conduct an After Action Review until all project information is complete and has been provided to agency staff and stakeholders.

Marine Debris

Comment: There were large amounts of debris both sinking and floating after blasting events. This is primarily a concern for marine turtles since they are known to ingest the type of debris that was found.

Recommendation: Explore options to minimize marine debris associated with blasting such as:

- 1) The use of detonation materials that will be completely consumed during blasting (lower grain of detonation cord so that it is all consumed in water – not in air).
- 2) The use detonation materials that may be retrieved after blasting (i.e., shock tube connected by rope that may be retrieved after the blast by pulling in the rope). Shock tube also has the benefit of a lower kill radius than detonation cord.
- 3) The use of alternate initiator systems that would significantly minimize the use of detonation cord and avoid the use of shock tube (i.e., digital, radio-controlled initiator).

Protected Species

Comment and Recommendation: The monitoring program, comprised of a Watch Program with an aerial survey that includes highly experienced observers, has been successful and should be continued. This conservation measure has proven to be a necessary component that should always be required for blasting to occur.

Comment: Throughout the Marine Species Watch Report, the terms “safety zone” and “exclusion zone” seem to be used interchangeably.

Recommendation: To prevent confusion of the use of this terminology, only one term should be used to describe the radius for exclusion (danger zone). This zone should include the calculated number as well the additional safety buffer.

Comment: Planning and coordination are essential to ensure the well-being of protected species. We had difficulty obtaining a Blast Plan in advance that included enough details to evaluate whether or not the protective measures were adequate.

Recommendation: The coordination meeting should be conducted at least three days before the first blast, and the Blast Plan should be submitted at least 30-60 days in advance of the coordination meeting to avoid delays.

Comment: The Marine Species Watch Report states that a Danger Zone of 1278 feet, an Exclusion Zone of 2556 feet, and a Safety Zone of 2856 feet would be “used for conducting the watch program during all blasts unless the watch coordinator was informed that the blast weight was over 120 lbs” (page 8, Watch Report). According to page 18 of the Watch Report, the Safety Zone for the July 27 blast was recalculated to 1600 feet. The reason for the recalculation was due to the proximity of two dolphins, which were located approximately 2400 feet from the blast array (Protected Marine Species Observation Form Daily Summary for 7/27/05; and page 18, Watch Report). “Due to the proximity of the dolphins, the drill barge was contacted prior to blast to confirm that the exclusion zone calculation was 1600 feet for the lower weight of explosives used that day” (page 18, Watch Report). This one example indicates that the minimum Safety Zone of 2856 feet was not used in all instances where the blast weight was less than 120 lbs, as was indicated on page 8 of the Watch Report. If it is stated that a minimum zone will be used for the watch program, it is imperative that any deviations to this statement be detailed in the final report. If a marine mammal had not exhibited a strong reaction to this blast, it is unlikely that we would be aware of the practice of recalculating impact zones.

Upon further investigation, review of the shot report summary for July 27 revealed that the maximum pounds/delay was 76 lbs. This would put the Exclusion Zone out to 2203 feet, not 1600 feet as indicated in the report. The additional 300' safety radius puts the limit of the Safety Zone at 2503 feet. According to blasting protocol, at T-minus 5 minutes, “the aerial observer confirmed that all animals are outside the safety zone” (Watch Report, page 15). Section 4.6 of the blast plan states that “[a]ll of the observers will be in close communication with the Blaster in Charge in order to halt the detonation in the event a marine mammal or turtle is spotted within the safety zone...” It is unfortunate that the last minute recalculations resulted in an inaccurate safety radius. The actual Safety Zone of 2503 feet put the dolphins (one of which showed a strong reaction to the blast) within the Safety Zone at the time of the blast, not “well outside the safety radius” (Watch Report, page 19).

Recommendation: Deviations to the conservation measures described in the Blast Plan and the Watch Plan should not occur without prior consultation with the fish and wildlife resource management agencies.

Comment: During the September 8, 2003, public blasting workshop for the Port of Miami, the ACOE made a commitment to double the safety radius. The particular formula they committed to use would be “ $520W^{1/3} + 300$ feet”, as indicated in the Watch Report. In the above paragraph discussing the incident with the dolphin, the radius appears to be recalculated using

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the formula " $260W^{1/3} + 500$ feet" (without being doubled). While the " $260W^{1/3} + 500$ feet" formula (without doubling) has been discussed between our agencies as a potential alternative for confined blasting, this may need to be reconsidered due to the reaction by the dolphin. Additionally, since the potential exists for some of the blasts to not always be confined (complications mentioned during the April 2006 Blasting Workshop), this confirms our assertions that it is best to be conservative when determining the blast exclusion zones.

Recommendations:

- 1) Do not recalculate radii on short notice, and maintain a doubling of the formula for the safety radius as previously agreed upon.
- 2) The formula that should be used to calculate the exclusion zone for confined blasting is " $520W^{1/3}$ with (preferably) $+ 500$ feet" since less area (as calculated differently) appears to be insufficient. While this newly recommended calculated exclusion area has not been proven to be adequate, it is likely to be more protective than the originally agreed upon formulas that appear to be inadequate.

We very much appreciate the opportunity to provide After Action Review comments on Phase II of the Miami Harbor Port Expansion project, and hope that they prove to be of some assistance to the ACOE when planning for Phase III. Please feel free to contact Lisa Gregg, Division of Marine Fisheries Management, at lisa.gregg@myfwc.com or (850) 488-6058 x210 if you need any additional information or have any questions regarding our comments.

Sincerely,



Mary Ann Poole, Director
Office of Policy and Stakeholder Coord.

map/lg
ENV 1-5-2
Miami Harbor Phase II AAR FWC Letter

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



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Re: Miami Harbor Port Expansion Project
Phase II – After Action Review
Post-Meeting Comments

Dear Ms. Jordan:

The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated the After Action Review of the Miami Harbor Phase II Project, and provide the following comments and recommendations. These comments and recommendations are in addition to, and clarification of, FWC comments submitted on July 31, 2006.

Disposal Options

Comment: There was some discussion at the August 1 and 2, 2006 After Action Review (AAR) meeting regarding options for upland disposal for Phase III, in order to reduce or eliminate the use of scows for transporting dredged sediments.

Recommendation: Upland disposal options for dredged sediments should be further investigated.

Protected Species

Comment: Much confusion exists over what the appropriate formula for calculating the blast radius should be, and whether or not the original recommendations made by the FWC were incorporated into the ACOE plans and specifications. According to the

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ACOE, the exclusion zones identified in the Marine Species Watch Report (MSWR) were greater than the zones required in the plans and specifications of the project. The contractor hired to complete the project voluntarily increased the radius of the zones. The comment in our letter dated July 31, 2006 was based on the calculations presented in the MSWR.

To further clarify any misunderstanding, the July 27th blast was recalculated using the formula in the plans and specifications, not what was reported in the MSWR. Therefore, the dolphin that exhibited a strong reaction to the blast was outside of the zone as calculated from the formula in the plans and specifications, but within the zone as calculated from the formula in the MSWR. The fact that the dolphin reacted so strongly to the blast while outside of the originally approved radii causes concern that the formula presented in the plans and specifications may not be adequate to protect marine species.

Recommendation: It may be necessary to modify the exclusion zones to reflect specific site conditions such as bathymetry or proximity to shoreline, to ensure adequate species protection.

Bid Specifications

Comment: Blasting was required as a construction technique for Phase II when the contractor may have been capable of doing the same work without blasting.

Recommendation: Allow contractors to bid on projects based on the capabilities of the equipment they have available to them, and do not require or prohibit specific construction techniques or equipment unless a Biological Opinion for Endangered Species dictates such a requirement or prohibition. Contractors should first be given the opportunity to prove the capabilities of their construction techniques or equipment before the technique or equipment is required or prohibited.

Applicability of Survey Information

Comment: There was discussion during the AAR Meeting about the length of time Civil Works projects can take due to Congressional authorization, budgeting constraints and other factors. There is concern that surveys conducted during the feasibility or pre-construction phase of a project may no longer be applicable once Project Engineering and Design (PED) commences.

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Recommendation: When developing surveys in conjunction with local, state and federal resource management agencies, the length of time that a survey will be considered applicable should be determined as part of the survey development process. If a Civil Works projects has not entered into the PED phase prior to the "expiration" of a survey, the survey should be updated.

We appreciate the opportunity to provide additional After Action Review comments on Phase II of the Miami Harbor Port Expansion project. Please feel free to contact Lisa Gregg, Division of Marine Fisheries Management, at lisa.gregg@myfwc.com or (850) 488-6058 x210 if you need any additional information or have any questions regarding our comments.

Sincerely,



MaryAnn Poole, Director
Office of Policy and Stakeholder Coord.

da/lg
Miami Harbor Phase II AAR FWC Letter #2